TECOLOTE RESEARCH, INC.

Bridging Engineering and Economics
Since 1973

conomic Opportunity Operating Space (EOOS) Proof of Concept

January 2000

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Introduction

EOOS is

- ***An Initiative to Achieve Cost Reduction Goals***
- ***A Process improvement tool***
- ***Utilized Throughout the Entire Life Cycle of the Process Improvements***
- ***A Tool the Identifies the Actual Savings Achieved over the Life of the Improvements***
- ***A Tool that Provides Quantifiable Metrics For Management Use***

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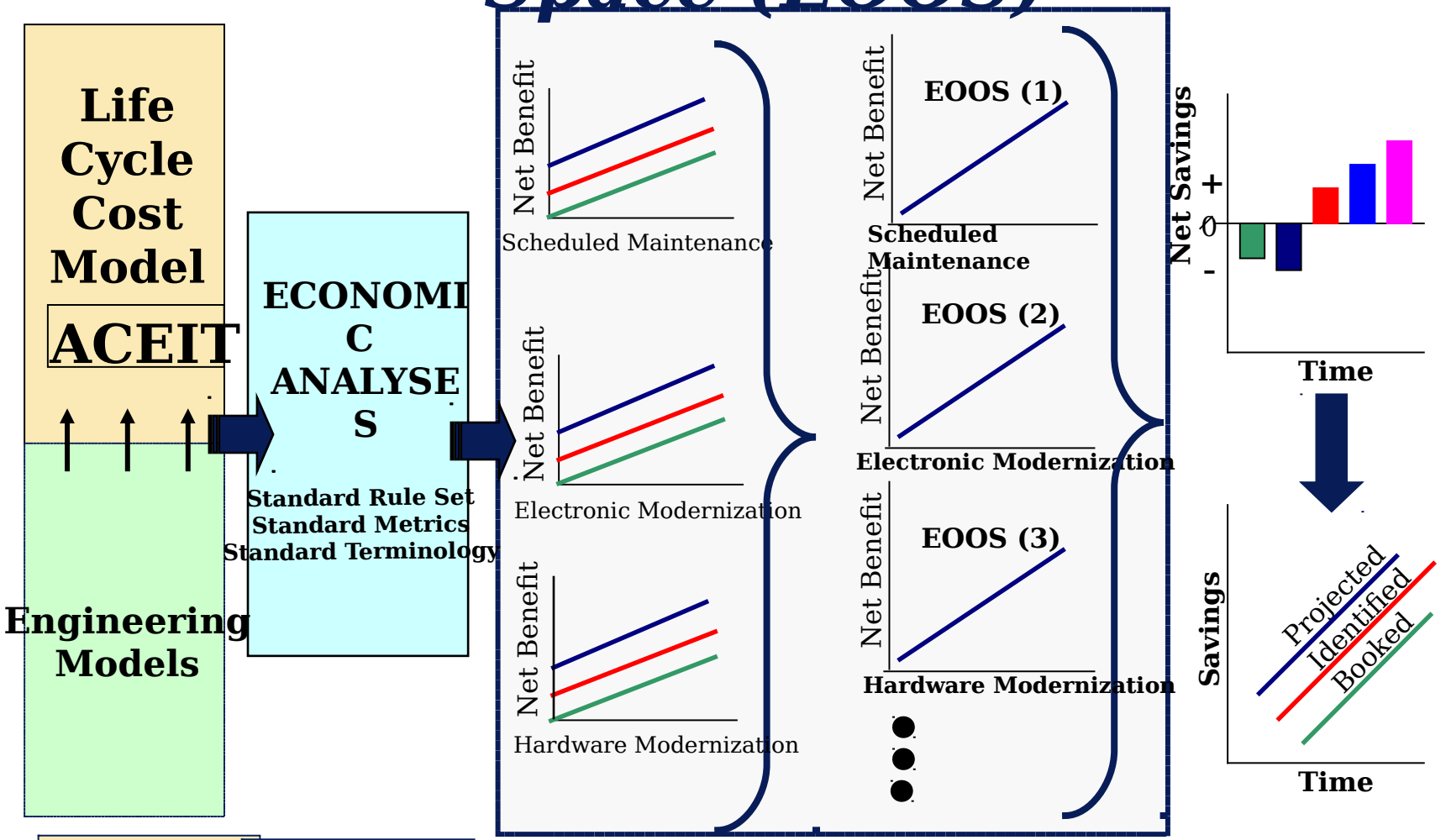
Economic Opportunity Operating Space (EOOS)



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Modeling - Life Cycle Cost Model

Life Cycle

Management Team

Baseline

Analyses

EA
1 EA
2 EA
3 EA
4 EA
5 EA K

Synthesis Tool Box

ACE EXECUTIVE Time Units: Currency: Year: Results

Calculate | Session... | Load... | Save... | M | $ | 1999 | TY

AFAR1205.acw

WBS	CODE	TYPE	Total	1998	1999	2000	2001	2002	2003
ES [AIRCRAFT]	Aircraft$	OUTPUT	2,635.780	19.5	19.0	32.0	89.0	150.0	195.5
DT&E FUNDED ELEMENTS	RDT&E$	OUTPUT	90.500	19.5	19.0	32.0	14.0	5.0	1.0
DEVELOPMENT ENGINEERING	Rdte_DevEng$	OUTPUT	17.000	3.0	3.0	5.0	6.0		
PROD ENG AND PLAN (PEP)	Rdte_PEP$	OUTPUT	10.000			10.0			
DEVELOPMENT TOOLING	Rdte_DevTool$	OUTPUT	3.000	3.0					
PROTOTYPE MANUFACTURING	Rdte_ProtoMfg$	OUTPUT	17.000	7.0	10.0				
SYSTEMS ENGINEERING/MGMT	Rdte_SysEng$	OUTPUT	20.000	4.0	4.0	4.0	4.0	4.0	
SYSTEMS TEST AND EVAL	Rdte_SysT&E$	OUTPUT	18.000	2.0	1.0	9.0	4.0	1.0	1.0
TRAINING	Rdte_Train$	OUTPUT	4.000			4.0			
DATA	Rdte_Data$	OUTPUT	1.500	0.5	1.0				
PROCUREMENT FUNDED ELEMENTS	Procure$	OUTPUT	1,739.800				74.6	143.9	188.5
NON-RECURRING PROD	Proc_N-RecProd$	OUTPUT	30.000				30.0		
RECURRING PRODUCTION	Proc_Rec_prod$	OUTPUT	1,417.500				31.5	120.0	157.0
MANUFACTURING	Proc_manu$	OUTPUT	1,162.000				25.0	97.0	130.0
RECURRING ENGINEERING	Proc_Rec_Eng$	OUTPUT	37.000				1.0	3.0	4.0
SUSTAINING TOOLING	Proc_Sust_Tool$	OUTPUT	126.000				2.0	9.0	10.0
QUALITY CONTROL	Proc_Qual_Control$	OUTPUT	67.000				3.0	10.0	10.0
OTHER RECURRING PROD	Proc_OthRec$	OUTPUT	25.500				0.5	1.0	3.0
ENGINEERING CHANGES	Proc_Eng_Change$	OUTPUT	47.000				1.0	3.0	4.0
SYSTEMS ENGINEERING/MGMT	Proc_Sys_eng$	OUTPUT	108.000				4.0	10.0	10.0
SYSTEMS TEST AND EVAL	Proc_Sys_T&E$	OUTPUT	10.000				1.0	1.0	1.0
TRAINING	Proc_Train$	OUTPUT	50.000				4.0	6.0	9.0
FIELDING	Proc_Fielding$	OUTPUT	77.300				3.1	3.9	7.5
MP DIRECT FUNDED ELEMENTS	MP_direct$	OUTPUT	376.300				0.1	0.2	2.0
OM FUNDED ELEMENTS	OMA$	OUTPUT	420.570				0.2	0.4	3.0
DBOF ELEMENTS	DBOF$	OUTPUT	8.610				0.1	0.5	1.0

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Economic Analysis of Individual Initiative

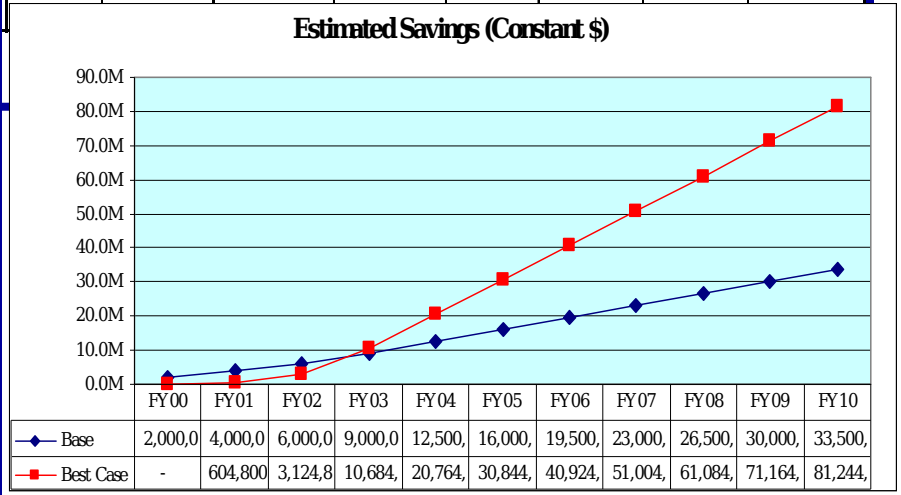
Baseline

Economic Analysis

ECONOMIC ANALYSIS SAVINGS FORMAT - Alternative 2

Evaluation Period	Investment (Con $)	Investment (Disc $) *	Investment (Cur $) *	Operations Status Quo (Con $)	Operations Status Quo (Cur $)	Operations Alternative (Con $)	Operations Alternative (Cur $)	Savings (Con $)	Savings (Disc $)	Savings (Cur $)	Net Impact on Field Budget (Cur $)
	(1)	(1) x disc fac	(1) x infl fac	(2)	(2) x infl fac	(3)	(3) x infl fac	(4) =(2) - (3)	(4) x disc fac	(4) x infl fac	
FY00	4,000,000	3,947,069	4,111,669	12,000,000	12,312,168	10,000,000	10,260,140	2,000,000	1,973,535	2,052,028	
FY01	3,000,000	2,882,475	3,133,917	12,000,000	12,512,292	10,000,000	10,426,910	2,000,000	1,921,650	2,085,382	
FY02		-	-	12,000,000	12,719,420	10,000,000	10,599,517	2,000,000	1,871,130	2,119,903	
FY03		-	-	12,000,000	12,956,253	9,000,000	9,717,190	3,000,000	2,732,906	3,239,063	
FY04		-	-	12,000,000	13,228,334	8,500,000	9,370,070	3,500,000	3,104,567	3,858,264	
FY05		-	-	12,000,000	13,506,129	8,500,000	9,566,841	3,500,000	3,022,947	3,939,288	
FY06		-	-	12,000,000	13,789,758	8,500,000	9,767,745	3,500,000	2,943,474	4,022,013	
FY07		-	-	12,000,000	14,079,343	8,500,000	9,972,868	3,500,000	2,866,089	4,106,475	
FY08		-	-	12,000,000	14,375,009	8,500,000	10,182,298	3,500,000	2,790,739	4,192,711	
FY09		-	-	12,000,000	14,676,884	8,500,000	10,396,126	3,500,000	2,717,370	4,280,758	
		-	-	12,000,000	14,985,099	8,500,000	10,614,445	3,500,000	2,645,930	4,370,654	
						-	-	-	-	-	
		3,829,545	7,245,58								

o Total Benefits (Cur	
o Investment Cost (Current Dollars)	7,245,586
o Net Present Value Benefits	-
o Net Present Value Savings	21,760,793
o BIR [(5)/(6) form Benefits Display]	4.19
o SIR [(5)/(6) form Savings Display]	4.19
o Payback (Years based on $ savings)	5.03



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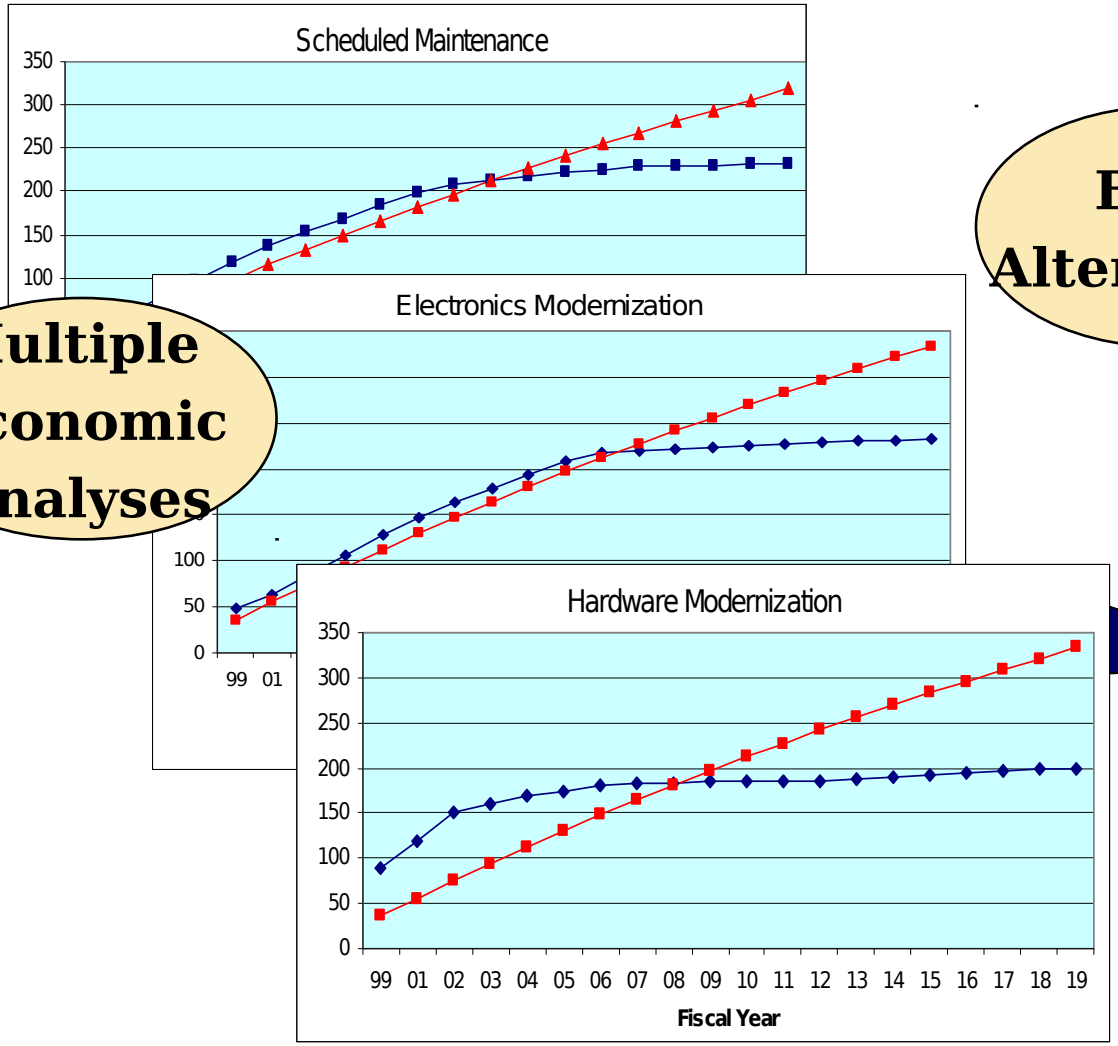
Synthesis of Economic Analyses

Economic Analysis

Multiple Economic Analyses



Best Alternatives

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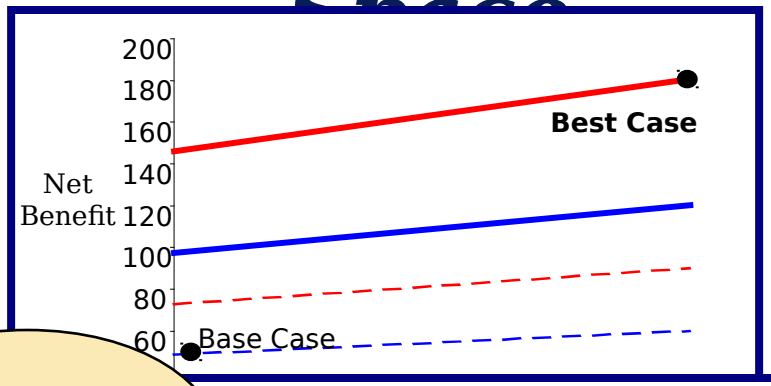
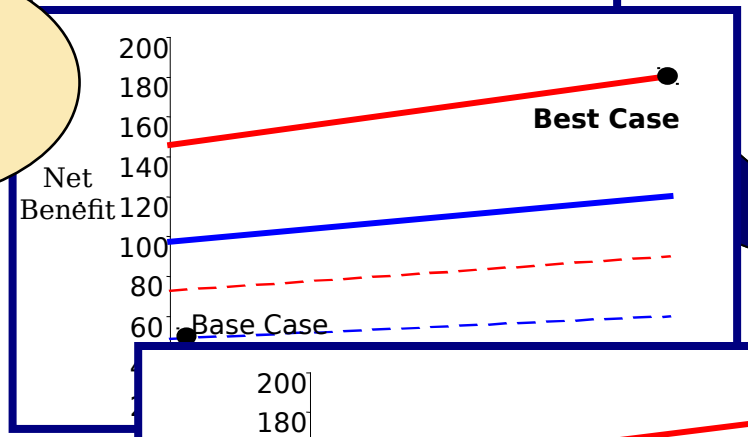
Economic Opportunity Operating Space

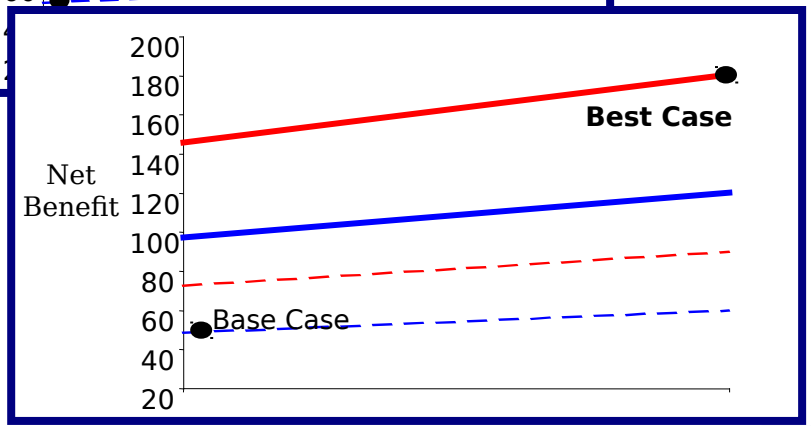
Best Alternatives

EOOS

Management Metrics







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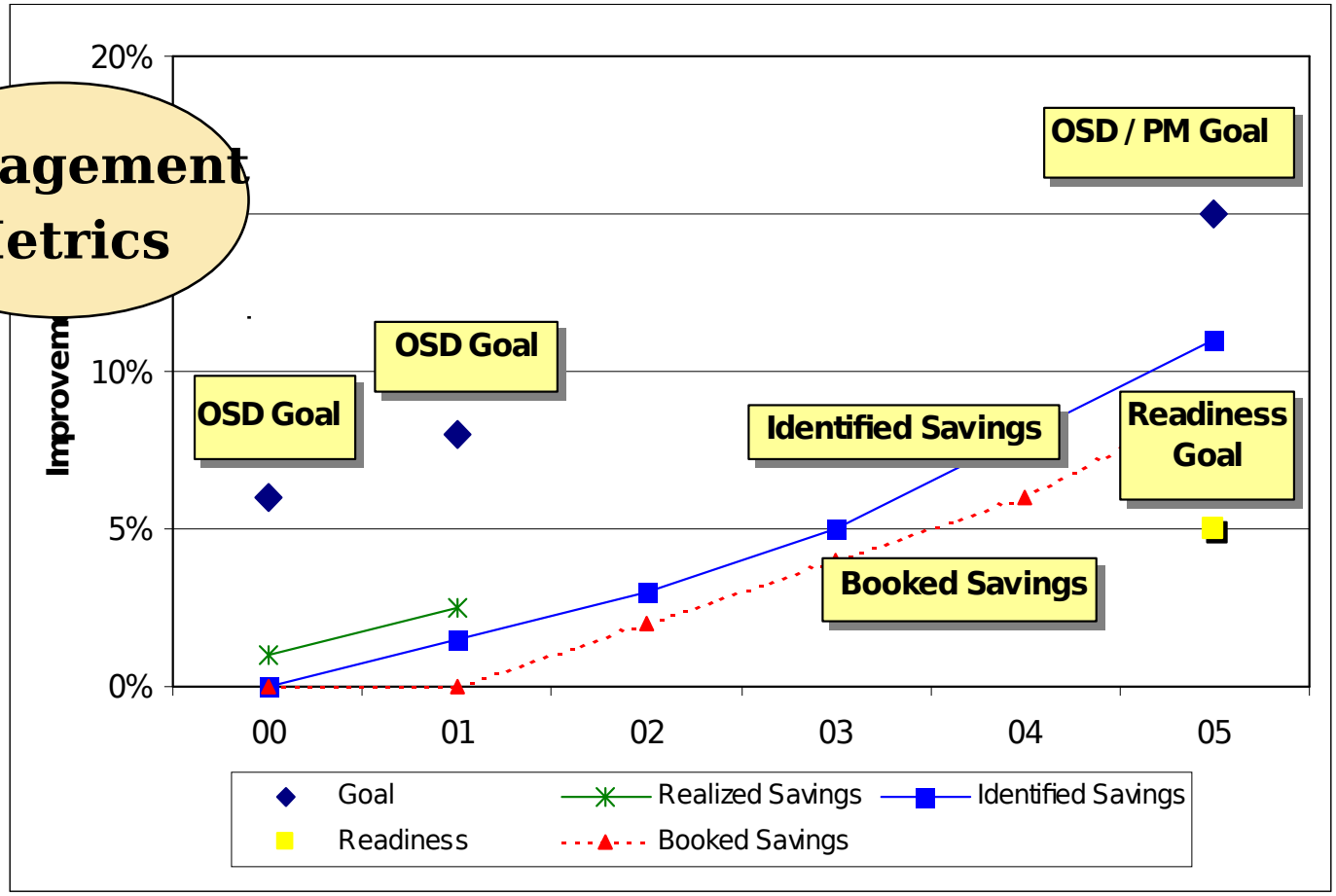
Management Metrics

EOOS

Management Metrics



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Summary

- ***EOOS Initiative Measures and Manages Cost Reduction Activities***
- ***EOOS Provides a Direct Link Between POE and Management Metrics***
- ***Graphical Summaries Provide Quick Visual Indicators***
- ***EOOS is Becoming the SOP for PMO Cargo Helicopter***

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